
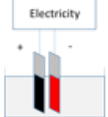


## elerGreen Research Centre Capability

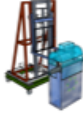
**Fundamental**




**Chemical**



**Electrochemical**




**Special**

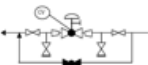


**Biochemical**


**Industrial**




**Facilities**



**Design**




**Modelling**




**Process**


**Impacts**




**Collaboration**



**Awareness**



**Business**



**Analysis**



elerGreen is a cleantech startup that has laboratory and research facilities at Parkdale Centre for Innovation with state-of-the-art reactors and analytical apparatus, some are available for external use.

elerGreen facilities provide a collaborative space and cross-disciplinary approach to tackle challenging problems in environment and energy. The facilities occupy the 1st floor of the Parkdale Centre for Innovation for research and laboratory workspace, including large, bright and collaborative benches.

elerGreen research concerns chemical, electrochemical and mechanical methods to create renewable products or processes for environmental impacts, also compatible for biochemical/bio-related research of external parties. elerGreen houses a wide array of analytical instruments for chemical identification, stoichiometric quantification, species isolation and microscopy. elerGreen also has special expertise of providing the novel elerGreen moving electrode reactors for research.

Computational modelling and process design play a central role in elerGreen, also available for external use. elerGreen's diversity of impact research, including collaboration, awareness, business and analysis, forms a wide range of expertise useful for many given project. This provides students, researchers or external clients with a broad array of state-of-the-art techniques to tackle complex problems.

The address is: 1464 Queen Street West, Toronto, Ontario, M6K 1M2, towards any of the contacts:

**Person-in-charge**

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**elerGreen**





elerGreen Industry Corporation




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Phone: 647-901-3537

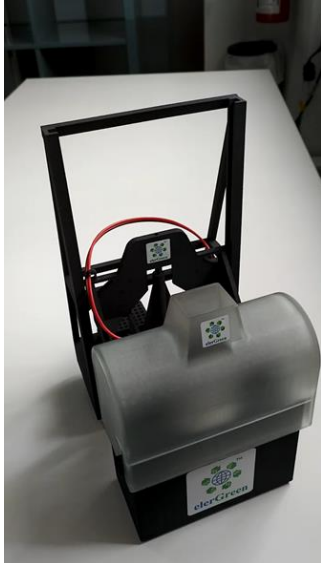


Selected Equipment



		Equipment/Apparatus	Description
Chemical or Biological Lab		<p>Lab Glassware</p> 	<p>Assorted Lab Chemical glasswares, including beakers, conical flasks, volumetric flasks, measuring cylinders, pipettes and syringes</p> 
		<p>Micropipettes (set of 0.5-5000 uL)</p> 	<p>Xin Tester Single Channel autoclavable micropipettes, with adjustable variable volume over wide ranges:</p> <ul style="list-style-type: none"> <li>• 0.5-10<math>\mu</math>L</li> <li>• 10-100<math>\mu</math>L</li> <li>• 100-1000<math>\mu</math>L</li> <li>• 1000-5000<math>\mu</math>L</li> </ul>
		<p>Lab Cart</p>	<p>3 Tiers Rolling Utility Cart, to hold and transport chemicals and tools in larger batch safely within lab space.</p>
		<p>Distilled Water System</p> 	<p>VEVOR 4L Water Distiller 750W All Stainless Steel Internal with Dual Temperature Display.</p> <p>Coupled with Countertop Water Dispenser of 2 Gallons (7.5L).</p>
		<p>Ultrasound Cleaner</p>	<p>6L cleaning capacity sufficient for huge lab glassware, to ease cleansing of lab apparatus and glassware.</p>
		<p>Hot Plate with Stirrer</p> 	<p>Zotic Supplies Hot Plate with Magnetic Stirrer accommodates flasks, beakers or vessels (depending on size). It is designed to maintain a constant temperature (up to 280°C) and agitation (up to 1600 rpm) for prolonged periods; useful in chemical, electrochemical or biological experiments or reagent preparations.</p>

Equipment/Apparatus		Description
	<p>Retort Stand with Clamps</p> 	<p>YaeTool 23.62" Rod Metalware Retort Stands, comes with accessories of flask clamps, condenser clamps and support rings.</p>
	<p>Cork Borer</p> 	<p>Manual Cork Borer suited for Rubber Stopper to set up piping or tubing in laboratory apparatus. It is made of durable material, with long handle comfortable to hold and easy to operate.</p>
	<p>Lab Oven</p> 	<p>Multipurpose lab oven for thermal treatment of materials and reagents, as well as drying, testing, curing and heated storage.</p>
<p>Lab and Process Safety</p>	<p>Laminar Flow Hood (Fumehood)</p> 	<p>Laminar flow hood provides a contaminant-free environment for work with chemical or biological samples. It is equipped with High-Efficiency Particular Air (HEPA) Filters that remove pollutants from the air before it gently flows through the hood in laminar fashion.</p>
	<p>Lab Gloves</p>	<p>Disposable lab gloves to protect hands against chemicals, splashes or spills during lab or field work</p>

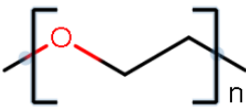
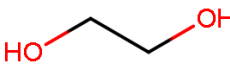
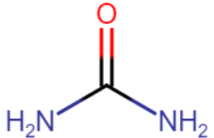
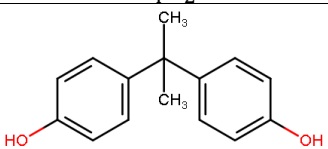
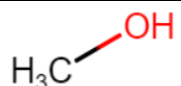
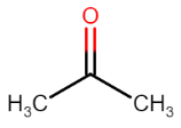
	<p>Lab Coat</p> 	<p>Modadoro Fashionable Lab Coat, sewn with elerGreen logo. It comes with 3 color styles, namely pearl white, aqua (light) blue and midnight navy (dark blue), and different sizes.</p>
	<p>Safety Glasses/Goggles</p>	<p>Safety glasses or goggles for eye protection against splashes or spills.</p>
	<p>Steel Toes</p>	<p>Metalclad shoes to protect toes against fall of heavy objects in lab or site setting.</p>
<p>Mechanical and Electrical Workshop</p>	<p>Toolbox</p>  	<p>Husky 22" toolbox, with dimensions of W22 X D12.3 X H11.2, having removable tool tray and lockable lid with build-in padlock eye. It also comes with a wide range of devices are available for mechanical and electrical workshop, such as:</p> <ul style="list-style-type: none"> <li>• Assembly tools (Wrenches and Allen keys)</li> <li>• Screwdrivers, bits, and screws</li> <li>• Saw and pruner</li> <li>• Wire cutter/stripper</li> <li>• Electric switches and plugs</li> <li>• Level and pressure gauge</li> <li>• Anchors and coax cable nail clips</li> </ul>
	<p>Power Drill</p>	<p>Portable electrical drill for mechanical fabrication such as punching hole to produce electrodes, or to fit mechanical parts together.</p>
	<p>Workshop Clamp</p>	<p>Housolution Universal Table Vise 3 Inch, 360°Swivel Base, to clamp items during mechanical work.</p>

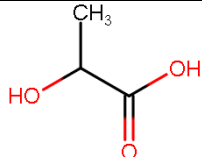
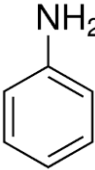

<b>Electricals and Electrochemistry</b>	Solder and Wiring Tools	Wiring soldering iron kit with solder wire and soldering paste. Also comes with assorted set of wires, crocodile clips and batteries and battery holders with switch.
	Portable Multimeter 	AstroAI True RMS 6000 Count Portable Digital Multimeter, comes with cords for various electrical and electrochemical measurements.
	Direct Current (DC) Power Supply 	DC Power Supply Variable 30V /10A 4-Digital Regulated Mini CC/CV Power Supply Single-Output 110V with Alligator Leads and CA Power Cord, useful for electrical and electrochemical experiments.
	elerGreen Moving Electrode Reactor (Full Automation) 	elerGreen bench-scale moving electrode reactor for continuous electrolysis research, with full-automation (electric-powered forklift assembly) to ease lab work.

	<p>elerGreen Moving Electrode Reactor (Basic)</p> 	<p>elerGreen bench-scale moving electrode reactor for continuous electrolysis research, with semi-automatic (manual forklift assembly) as economy type.</p>
<p>Analysis</p>	<p>Centrifuge</p> 	<p>YaeCC Mini Centrifuge, 7000rpm, 2 rotors, 110V Portable Centrifuge for small-sized cuvette to isolate solids against liquid from liquid suspensions.</p>
	<p>Microscope</p> 	<p>TELMU XSP-75 Cordless Lab Compound Monocular Microscopes, comes with Microscope Slides Set, Phone Adapter, Dual LED Illumination Power, and Optical Glass Lenses for 40X - 1000X Magnification. It is fitted with WF10x &amp; WF 25x eyepieces and 4x, 10x, 40x objective lens offers five magnification levels: 40X, 100X, 250X, 400X, 1000X to display smaller structures in experiments such as cells or material microstructures.</p>
	<p>Refractometer</p>	<p>Portable Refractometer for composition analysis, including concentration of metal ions or organic compounds.</p>

	<p>Balance</p> 	<p>Set of lab electronic scale/balance for taring chemicals or materials:</p> <ul style="list-style-type: none"> <li>• Digital milligram scale up to 50g with 0.001g precision</li> <li>• Digital analytical balance up to 220g with 0.0001g precision</li> </ul> 
	<p>Laser Thermometer</p>	<p>Wintact Infrared Laser Thermometer to measure real-time temperature in experiments under versatile conditions, especially contactless measurements that does not require installations thermometer installations.</p>
Digital/IT	<p>Computer Mobile Phone</p>	<p>Set of HP laptop and mobile phone for lab, office and showcase.</p>
	<p>Tablet</p>	<p>ZTE Grand X View 4 Tablet with cords, for lab, office, showcase and retails.</p>
	<p>HD Projector</p>	<p>HD Projector with rechargeable batteries and cords for showcase, meetings and conferences.</p>

Selected Chemical Inventory

Chemical/Material	Molecular Formula	Description
Polyethylene Glycol 400 ExiPlus		SKU: KS-87919 CAS No. 25322-68-3 Packing: 500 g
Zinc Oxide extrapure, 99%	$ZnO$	SKU: KS-87531 CAS No. 1314-13-2 Molecular Weight: 81.38 Packing: 1000 g
Ethylene Glycol extrapure AR, 99%	 $C_2H_6O_2$	SKU: KS-95361 CAS No. 107-21-1 Molecular Weight: 62.07 Packing: 2500 mL
Cupric Chloride pure, 98%	$CuCl_2$	SKU: KS-92315 CAS No. 7447-39-4 Molecular Weight: 134.45 Packing: 500 g
Ferrous Sulphate Heptahydrate extrapure AR, 99.5%	$FeSO_4 \cdot 7H_2O$	SKU: KS-97868 CAS No. 7782-63-0 Molecular Weight: 278.02 Packing: 500 g
Urea extrapure, 99%	 $CH_4N_2O$	SKU: KS-62762 CAS No. 57-13-6 Molecular Weight: 60.06 Packing: 500 g
Bisphenol A pure, 97%	 $C_{15}H_{16}O_2$	SKU: KS-31817 CAS No. 80-05-7 Molecular Weight: 228.29 Packing: 500 g
Methanol pure, 99%	 $CH_4O$	SKU: KS-59029 CAS No. 67-56-1 Molecular Weight: 32.04 Packing: 2500 mL
Acetone extrapure, 99%	 $C_3H_6O$	SKU: KS-66951 CAS No. 67-64-1 Molecular Weight: 58.08 Packing: 500 mL
Lithium Chloride Anhydrous pure, 99%	$LiCl$	SKU: KS-39692 CAS No. 7447-41-8 Molecular Weight: 42.39 Packing: 100 g

Lactic Acid pure, 85%	 $C_3H_6O_3$	SKU: KS-93762 CAS No. 50-21-5 Molecular Weight : 90.08 Packing : 500 ml
Aniline extrapure AR, 99.5%	 $C_6H_7N$	SKU: KS-22285 CAS No. 62-53-3 Molecular Weight : 93.13 Packing : 500 ml
Dimethyl Carbonate pure, 99%	 $C_3H_6O_3$	SKU: KS-86330 CAS No. 616-38-6 Molecular Weight : 90.08 Packing : 500 ml
Sodium Hydroxide Pellets extrapure AR, 98%	$NaOH$	SKU: KS-68151 CAS No. 1310-73-2 Molecular Weight : 40.0 Packing : 500 g
Sodium Hydroxide Powder extrapure, 96%, 80-100 mesh	$NaOH$	SKU: KS-39700 CAS No. 1310-73-2 Molecular Weight : 40.00 Packing : 500 g
Sodium Chloride extrapure AR, 99.9%	$NaCl$	SKU: KS-41721 CAS No. 7647-14-5 Molecular Weight : 58.44 Packing : 1000 g